APPLICATION

FOR

UNITED STATES LETTERS PATENT

TITLE: DISTINCTIVE RECORDABLE RINGER

INVENTORS: DEAN K. CLUFF and STEPHEN K. BIGELOW

Express Mail No. EL911617703US

Date: November 16, 2001

DISTINCTIVE RECORDABLE RINGER

Background

This invention relates generally to communication devices such as telephones and to ringers for those devices.

5   Existing telephones provide a variety of different telephone rings. Distinctive ringers (i.e., sounds generated to indicate an incoming call) may be utilized to distinguish one's cellular telephone from other proximate cellular telephones. Some manufacturers even enable users 10   to download ringers from the Internet.

However, even with existing prerecorded or downloadable ringers, the large number of cellular telephone users must pick from a relatively limited set of ringer options. It would be more desirable to have a 15   ringer option which is individually customizable.

Thus, there is a need for more options for ringers.

Brief Description of the Drawings

Figure 1 is a block diagram of one embodiment of the present invention; and

20   Figure 2 is a flow chart for software in accordance with one embodiment of the present invention.

1

Detailed Description

Referring to Figure 1, a telephone 10 may be a cellular telephone in accordance with one embodiment of the present invention. However, the present invention is applicable to ringers for any of a variety of communication devices including telephones and pagers.

The telephone 10 includes a baseband chipset 12 coupled to a standard ringer device 14 in one embodiment. Also coupled to the chipset 12 is a memory 16. The memory 16 may store one or more ringer software programs 32. The baseband chipset 12 is also coupled to a speaker 20 and a microphone 22 through an audio coder/decoder (CODEC). The audio coder/decoder 18 provides analog to digital and digital to analog conversion as well as filtering and compression in some embodiments.

The baseband chipset 12 is also coupled to a radio frequency chipset 24 (in a cellular telephone embodiment) which is in turn coupled to an antenna 26. Power may be received in some embodiments from a battery 30 coupled via a power control 28 to the baseband chipset 12 and the radio frequency chipset 24.

Turning next to Figure 2, the ringer software program 32 includes an initial module for determining normal telephone operation as indicated in block 34. Thereafter, the telephone 10 may be initialized for recording as indicated in block 36. For example, in response to the

user selection of a record button (not shown) on the housing of the telephone 10, the phone 10 may be switched from normal phone operation to the recording mode as indicated in block 36.

5   Whatever sound is present during a given recording interval is captured through the microphone 22 as indicated in block 38. The captured audio is then converted, as indicated in block 40, and compressed, as indicated in block 42, in some embodiments. The captured audio samples

10   are then stored in the memory 16, as indicated in block 44. The samples may be automatically played back through the speaker 20 or ringer 14 as indicated in block 46.

The user may then be asked to indicate whether or not the recording is acceptable and the user's response may be

15   determined in diamond 48. If the recording is not acceptable, the sample may be erased as indicated in block 50 and the flow repeated. If the sample is acceptable, the audio file may be mapped to the caller identification ring, primary ring, or a memo function as indicated in block 52.

20   For example a graphical user interface may appear and the user may be asked to indicate a caller to be linked to the recorded audio file.

The audio file may be mapped to a particular caller identification of a caller identification (CID) system.

25   When a call is received that corresponds to a particular caller identification, the distinctive, pre-recorded phone

3

ringer is played automatically. For example, when a call
comes from a given person, that person's caller
identification may be recognized. A particular recorded
audio file may be mapped to that caller's identifier. When
5   that caller calls, the stored audio file may be played back
automatically. That audio file may indicate who the caller
is in one embodiment. For example, the audio file may
advise that "Mr. Watson is calling."

By associating audio files with different caller
10   identifications, the ringer may be customized to the
incoming call. By recording the user's voice identifying
the incoming call, the telephone 10 user has an easy way to
know who is calling at any time.

In embodiments in which caller identification is not
15   utilized, the user may record his voice indicating that his
phone is ringing. For example, the audio file may advise
that "Mr. Smith your phone is ringing".

Since any sound may be recorded, the user may simply
record the sound which the user wants to have played when
20   an incoming call is received. This allows effectively
infinite customization of ringers that are easily
distinguished by the user.

While the present invention has been described with
respect to a limited number of embodiments, those skilled
25   in the art will appreciate numerous modifications and
variations therefrom. It is intended that the appended

4

claims cover all such modifications and variations as fall within the true spirit and scope of this present invention.

What is claimed is:

1